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Research article

## Organization specific predictors of job satisfaction: findings from a Canadian multi-site quality of work life cross-sectional survey

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### Abstract

**Background:** Organizational features can affect how staff view their quality of work life. Determining staff perceptions about quality of work life is an important consideration for employers interested in improving employee job satisfaction. The purpose of this study was to identify organization specific predictors of job satisfaction within a health care system that consisted of six independent health care organizations.

**Methods:** 5,486 full, part and casual time (non-physician) staff on active payroll within six organizations (2 community hospitals, 1 community hospital/long-term care facility, 1 long-term care facility, 1 tertiary care/community health centre, and 1 visiting nursing agency) located in five communities in Central West Ontario, Canada were asked to complete a 65-item quality of work life survey. The self-administered questionnaires collected staff perceptions of: co-worker and supervisor support; teamwork and communication; job demands and decision authority; organization characteristics; patient/resident care; compensation and benefits; staff training and development; and impressions of the organization. Socio-demographic data were also collected.

**Results:** Depending on the organization, between 15 and 30 (of the 40 potential predictor) variables were found to be statistically associated with job satisfaction (univariate analyses). Logistic regression analyses identified the best predictors of job satisfaction and these are presented for each of the six organizations and for all organizations combined.

**Conclusions:** The findings indicate that job satisfaction is a multidimensional construct and although there appear to be some commonalities across organizations, some predictors of job satisfaction appear to be organization and context specific.

### Background

There appears to be no one commonly accepted definition for quality of work life. In healthcare organizations,

quality of work life (QWL) has been described as referring to the strengths and weaknesses in the total work environment [1]. Characteristics that describe the overall organi-

zation are viewed as part of the behaviour and reward system of the staff working in that setting. Organizational features such as policies and procedures, leadership style, operations, and general contextual factors of the setting, all have a profound effect on how staff view the quality of their work life. QWL is an umbrella term which includes many concepts. Therefore, concentrating on only one job characteristic, whether it is wages or management style, is an inadequate approach to assessing QWL. Because the perceptions held by employees play an important role in their decisions to enter, stay with or leave an organization, it is important that staff perceptions be included when assessing QWL. And although job satisfaction is not QWL, perception of QWL is often assessed using job satisfaction surveys.

Previous studies have shown that low job satisfaction is a major cause of turnover among health care providers [2–4]. In addition, job satisfaction may affect the quality of service and organizational commitment [5–9] and may be a contributing factor associated with shortages of health care providers [10]. Such findings have recently increased interest in studying job satisfaction among health care providers [11]. The results of a 1993 meta-analysis of 48 studies looking at work satisfaction in over 15,000 nurses revealed that job satisfaction was associated strongly with reduced work stress, organizational commitment, communication with supervisors, autonomy, employee recognition, fairness, locus of control, years of experience, education, and professionalism. This study also found a strong relationship between job satisfaction and QWL for nurses [12].

After reviewing the literature on QWL and job satisfaction, and considering the wide variety of health care settings, situational contexts, and organizational structures (including management styles, reporting structures, staffing complements, and levels of training and experience) in which employees work, we hypothesized that the predictors of job satisfaction would vary depending on the organization. The purpose of this study was to identify

organization specific predictors of job satisfaction within a health care system that consisted of six independent and distinct organizations located in five communities in Central West Ontario, Canada.

## Methods

### Setting

The settings for this study included six independent and distinct health care organizations providing varying levels and types of care. All six organizations were affiliated with the St. Joseph's Health System (SJHS) located in five Central West Ontario communities. Collectively, the SJHS is one of the largest corporations in Canada devoted to health care. At the time of the study (2000), the SJHS employed 5,486 full, part and casual time (non physician) staff. Additional information about each of the six organizations and their respective communities is provided in Table 1.

### Questionnaire development

Items included in the "Quality of Work Life Survey 2000" were selected after a review of the literature and extensive consultation between research team members and the QWL Task Force (a management group consisting of representatives from each of the six SJHS organizations). The initial selection of items was influenced by a recently published Canadian study [13] and reports from two meta-analyses [1,12]. The QWL Task Force then refined these items to consider, among other things, issues of accuracy, relevance, readability, grammar, potential for offensiveness, and appearance of cultural or gender bias. After several months of development, the instrument was pretested on a small group of staff at two of the participating organizations (Site 2 and Site 4 – see Table 1). This pretesting was done to ensure that individuals could follow the instructions associated with the format, to obtain estimates of the time required to complete the survey instrument, to identify items that were poorly written or ambiguous, and to identify an appropriate implementation strategy. The questionnaire and implementation strategies were revised accordingly.

**Table 1: Characteristics of the Organizations within the St. Joseph's Health System.**

Site	Type of Organization	No. of Staff	No. of Beds or Visits/Yr	Community Population <sup>1</sup>
Site 1	Community Hospital	321	101	84,764
Site 2	Community Hospital / Long-Term Care Facility	649	186/124	95,821
Site 3	Visiting Nurse Organization	205	140,152	322,352
Site 4	Long-Term Care Facility	481	389	23,125
Site 5	Community Hospital	889	148	178,420
Site 6	Tertiary Care Hospital / Community Health Centre	2,941	459/88,837	322,352

<sup>1</sup> 1996 Census

The final 65-item survey contained nine sections representing topic areas considered relevant to assessing QWL in the SJHS. Eight scale scores were developed from the individual items (see below and Additional File: Statistically Significant Organization Specific (Univariate) Predictors of Job Satisfaction).

The *Co-worker and supervisor support* section included 10 closed-ended and 1 open-ended questions. A 3-item supervisor social support scale included questions about supervisor helpfulness, concern about the welfare of employees, and ability to facilitate effective interaction among employees. Co-worker support was measured by a 7-item scale reflecting the extent to which co-workers were seen as competent, understanding, and supportive of employees. Both scales were adapted from Woodward et al. (1999) [13].

The *Teamwork and Communication* section included 9 closed-ended and 1 open-ended questions. For determining teamwork, a 7-item scale was adapted from Taylor and Bowers (1972) to measure the extent to which one's work unit coordinates efforts, solves problems and works together effectively [14]. A 2-item scale developed for this project measured how communication was practiced within the organization.

The *Job Demands and Decision Authority* section included 15 closed-ended and 1 open-ended questions. It included a 4-item scale adapted from Brosnan and Johnson (1980) to measure clarity regarding responsibilities, workloads and conflicting demands [15]. There was also a 9-item scale adapted from Karasek et al. (1998) to measure the extent to which respondents' jobs gave them autonomy or decision-making latitude [16], and 2 questions which reflected the demands of one's work [17].

The *Characteristics of Your Organization* section included 6 closed-ended and 1 open-ended questions. This section was adapted from Woodward et al. (1999) and included a 4-item scale that inquired about the extent to which the organization encouraged the best efforts from staff, and how employees were treated [14]. Two additional questions examined the extent to which staff were kept informed, and organizational recognition of employee contributions.

The *Patient/Resident Care* section included 5 closed-ended and 1 open-ended questions. The questions (developed for this project) were used to measure employees' perceptions of the quality and timeliness of care provided for patients and residents at their respective organizations.

The *Compensation and Benefits* section included 10 closed-ended and 1 open-ended questions. These ques-

tions were developed for this project to determine employee satisfaction concerning a number of employee benefits and level of pay.

The *Staff Training and Development* section included 6 closed-ended and 1 open-ended questions. These questions (developed for this project) measured the extent to which each organization supports its staff in training, educational development and opportunities for advancement.

The *Overall Impressions of Your Organization* section included 4 closed-ended and 4 open-ended questions. All of the questions (developed for this project) assessed staffs' impressions of and overall satisfaction with their organization. The question "Overall, how satisfied are you with your job?" was used as the outcome variable in this study.

The *Staff Socio-Demographic Information* section included 10 closed-ended questions (developed for this project) to collect information on gender, age, marital status, education, length of employment, supervisory status, time spent on job activities, job status and job classification.

Within each of the first 8 sections, employees were asked to circle the response that best described their feelings using 5-point Likert scales. Employees were also asked for written comments pertaining to each of the sections and were provided space to comment on other issues they felt were important.

### Survey Procedure

Because of the diversity of organizations and staff within the SJHS, it was decided by the QWL Task Force, organization administrators and researchers that the implementation of the survey would be customized to best fit each of the organizations. It was felt that a varied approach would be more feasible for the organizations and that this would help maximize response rates. Although the procedures were not identical, all of the organizations provided as a minimum: advance notification (written or voice mail) of the survey to all staff (eligibility was based on whether the worker was active on the organization's pay roll at the time of the study and was not a physician); access to questionnaires for all staff (the QWL Task Force felt that each staff member in the SJHS should have the opportunity to complete a questionnaire); one or more reminder notices (e.g., letters, newsletters, voice mail, personal communication); and sealed drop off boxes for completed questionnaires. Pilot testing of the questionnaire revealed that employees felt that tracking individual employees for the purpose of follow-up (i.e., to increase response rate), violated the perception of anonymity and confidentiality. Therefore, to help ensure anonymity and confidentiality,

follow-up attempts were limited to general reminder notices to all staff.

### Analysis

All closed-ended (or quantitative) responses were entered directly from the questionnaires into SPSS (version 10.0.5 for Windows, SPSS, Inc., Chicago, 1999). Prior to data analysis, most of the survey questions were re-coded. Questions which asked participants to select one response within a five point scale (never to always; very dissatisfied to very satisfied; very poor to very good; no, definitely not to yes, definitely) were collapsed into two categories. For example, for the response scale (1=very dissatisfied, 2=dissatisfied, 3=not sure, 4=satisfied, 5=very satisfied) those who indicated they were either satisfied or very satisfied were re-coded as "satisfied" while all others were re-coded "not satisfied" by default. In several instances, it was appropriate to combine two or more of the questions into a composite scale score. See "Questionnaire Development" section and Additional File: Statistically Significant Organization Specific (Univariate) Predictors of Job Satisfaction for additional details on how the composite scale scores were calculated. In total, there were eight scale scores (supervisor social support; co-worker support; teamwork; communication; role clarity; decision latitude; organization/staff relations; patient/resident care). Scale scores were generated by summing the participant responses (i.e. one to five) for all questions that made up the scale. In the rare situation where a participant failed to answer one or more of the questions that made up a scale score, missing values were replaced with mean values for that organization. Scale scores were categorized into meaningful dichotomous categories prior to analysis (e.g., satisfied or not satisfied).

For the purpose of this study, QWL was operationally defined using the global question "Overall, how satisfied are you with your job?". Employees rated job satisfaction from very dissatisfied to very satisfied using a five point scale (very dissatisfied, dissatisfied, not sure, satisfied, very satisfied). For the analysis, however, those indicating they were either satisfied or very satisfied were considered to be "satisfied" with their jobs. All others were considered "not satisfied" with their jobs.

Prior to analysis, study researchers reached a consensus on which survey questions to include as potential predictors of job satisfaction. In total, there were eight scale scores and 32 questions that were rationalized *a priori* as potential predictors of job satisfaction. Data from each of the organizations, as well as all of the organizations combined (representing the SJHS), were analyzed separately to identify predictors of job satisfaction. T-test, chi-square analyses and, when appropriate, Fisher exact tests were used to determine which of the variables were statistically associ-

ated with job satisfaction i.e., were potential predictors of job satisfaction. Descriptive information (numbers and percentages) for each of the variables was calculated by whether or not staff were satisfied with their jobs. In addition, p-values, odds ratios, and 95% confidence intervals for the odds ratios were calculated for each potential predictor of job satisfaction.

Separate logistic regression analyses were used to identify the best predictors of job satisfaction for each organization and for all organizations combined (SJHS). Only variables which had a statistically significant association with job satisfaction were included in these analyses. Adjusted odds ratios and corresponding 95% confidence intervals are reported for each organization and the SJHS. The logistic regression analyses produces odds ratios which have been simultaneously adjusted for all other variables in their respective final models. The goodness of fit of the logistic regression models were assessed using the rho-squared statistic [18]. A rho-square value between 0.20 and 0.40 suggests a very good fit of the model. A probability level of <0.05 was used to determine statistical significance. SPSS and Epi-Info (version 6.04a, Centers for Disease Control and Prevention, Atlanta, 1995) were used for statistical computations.

### Results

Table 1 provides additional information about each of the six health care organizations, including the type of organization, number of staff, number of beds or visits/year, and the size of the community where the organization was located.

#### Respondent participation rate

Response rates are often used as an indicator of the representativeness of a sample of respondents. Of the combined 5,486 staff, 1,819 (33.2%) returned a completed questionnaire. Organization specific response rates varied from 25.3% to 55.3% (Table 2). In an attempt to assess the representativeness of respondents, a comparison was made of available socio-demographic information between respondents and all staff within each of the organizations. Overall, female employees were more likely to respond than male employees (it should be noted, however, that the vast majority of staff (82% to 98%), were females within each of these organizations), as were full-time employees compared to part-time, casual or temporary employees. There were also some differences in respondents, across organizations, based on job classification. All organizations, however, had respondents within each job classification. A statistical estimating procedure was also used to assess how accurately respondents represent staff at each of the organizations [19]. This calculation suggests that the organization specific findings

were accurate plus or minus 3.6% to 8.8%, 19 times out of 20 (Table 2).

**Table 2: Response rates and accuracy of responses by organization.**

Site	Number of Staff <sup>1</sup>	Number of Respondents	Response Rate	Accuracy (plus or minus 19 times out of 20) <sup>2</sup>
Site 1	321	125	38.9%	8.8%
Site 2	649	210	32.4%	6.8%
Site 3	205	103	50.2%	6.8%
Site 4	481	145	30.1%	8.1%
Site 5	889	492	55.3%	4.4%
Site 6	2,941	744	25.3%	3.6%
<b>SJHS</b>	<b>5,486</b>	<b>1,819</b>	<b>33.2%</b>	<b>2.3%</b>

<sup>1</sup>Excludes physicians <sup>2</sup>Standard error at the 95% confidence interval on a dichotomous variable with a 50/50 distribution.

### Potential predictors of job satisfaction

Organization specific and combined SJHS (univariate) analyses (t-test, chi-square analyses and, when appropriate, Fisher exact tests) were used to determine which of the potential predictor variables were statistically associated with job satisfaction. Included in these analyses were the 40 potential predictor variables (8 scale scores and 32 individual questions). See Additional File: Statistically Significant Organization Specific (Univariate) Predictors of Job Satisfaction for a list of all variables. The number of statistically significant variables ranged from 15 to 30 depending on the organization and 32 for all organizations (SJHS) combined (see Additional File: Statistically Significant Organization Specific (Univariate) Predictors of Job Satisfaction).

### Best predictors of job satisfaction

Separate logistic regression analyses were then used to identify the best predictors of job satisfaction for each organization and for all organizations combined (SJHS). All variables found to be statistically associated with job satisfaction from the univariate analyses were entered into these logistic regressions analyses. The best predictors of job satisfaction are presented in Table 3. The ranking assigned to these variables relates to the order in which variables were added to the logistic regression models. For example, the rank "1" refers to the first variable that was added to the model i.e., the variable which best improved the fit of the model (or the most important variable). A more detailed description of the magnitude (as represented by the size of the odds ratios) and statistical significance (as represented by the 95% confidence intervals of the odds ratios) of the association between each of these

predictors and job satisfaction is presented below for each organization and all organizations combined (SJHS). The best predictors of job satisfaction are again ranked according to their importance. All of the odds ratios presented below have been simultaneously adjusted for all other variables in their respective final logistic regression models. All logistic regression models achieved a rho-square between 0.20 and 0.40 suggesting they were very good (fitting) models for predicting job satisfaction.

#### Site 1 (community hospital)

The most important predictors of job satisfaction were: 1) being satisfied with the organization's recognition of employee contributions (OR 5.01, 95% CI 1.59 to 15.81), 2) good decision authority (OR 7.91, 95% CI 1.46 to 42.92), 3) being satisfied with patient resident care (OR 4.66, 95% CI 1.36 to 15.97), and 4) good role clarity (OR 4.24, 95% CI 1.16 to 15.49). The final model achieved a rho-square of 0.30.

#### Site 2 (community hospital/long-term care facility)

The most important predictors of job satisfaction were: 1) good open communication between staff (OR 2.55, 95% CI 1.03 to 6.35), 2) good supervisor social support (OR 6.27, 95% CI 1.36 to 29.00), 3) organization keeps staff informed (OR 3.73, 95% CI 1.51 to 9.20), 4) good decision authority (OR 3.49, 95% CI 1.25 to 9.73), and 5) being satisfied with pay level (OR 2.47, 95% CI 1.14 to 5.34). The final model achieved a rho-square of 0.24.

#### Site 3 (visiting nurse organization)

The most important predictors of job satisfaction were: 1) less frequently (never/seldom/sometimes) asked to do an excessive amount of work (OR 7.22, 95% CI 2.22 to 23.46), 2) being satisfied or very satisfied that the organization keeps employees informed (OR 4.52, 95% CI 1.43 to 14.32), 3) belief the organization carries out its Mission statement (OR 11.17, 95% CI 2.04 to 61.14, and 4) good decision authority (OR 5.29, 95% CI 1.32, to 21.22). The final model achieved a rho-square of 0.34.

#### Site 4 (long-term care facility)

The most important predictors of job satisfaction were: 1) belief the organization carries out its Mission statement (OR 4.63, 95% CI 1.77 to 12.51), 2) good supervisor social support (OR 3.32, 95% CI 1.22 to 9.04), 3) good decision latitude (OR 11.61, 95% CI 1.33 to 101.8), 4) often or always given enough time to get the job done (OR 3.05, 95% CI 1.00 to 9.35), and 5) spending 38 hours or more on the job or job related activities (OR 3.55, 95% CI 1.32 to 9.59). The final model achieved a rho-square of 0.34.

#### Site 5 (community hospital)

The most important predictors of job satisfaction were: 1) belief the organization carries out its Mission statement

**Table 3: Best Predictors of Job Satisfaction<sup>1</sup> Ranked by Organization<sup>2</sup>.**

Predictors of Job Satisfaction	Site 1 Rank	Site 2 Rank	Site 3 Rank	Site 4 Rank	Site 5 Rank	Site 6 Rank	SJHS <sup>3</sup> Rank
Believes organization carries out its Mission Statement	-	-	3	1	1	1	1
Good communication <sup>4</sup>	-	1	-	-	-	2	2
Infrequently asked to do an excessive amount of work	-	-	1	.	3	-	3
Good decision latitude <sup>5</sup>	-	-	-	3	4	6	4
Overall satisfaction with pay level	-	5	-	-	5	-	5
Satisfied organization recognizes employee contributions	1	-	-	-	-	7	6
Female employees	-	-	-	-	6	-	7
Good role clarity <sup>6</sup>	4	-	-	-	7	-	8
Satisfied the organization keeps employees informed	-	3	2	-	2	-	9
Good teamwork <sup>7</sup>	-	-	-	-	-	-	10
Given enough time to get job done	-	-	-	4	-	3	11
Good organization/staff relations <sup>8</sup>	-	-	-	-	-	-	12
Good decision authority <sup>9</sup>	2	4	4	-	-	-	-
Satisfied with patient/resident care <sup>10</sup>	3	-	-	-	-	-	-
Good supervisor social support <sup>11</sup>	-	2	-	2	-	-	-
Hours per week spent on job related activities	-	-	-	5	-	-	-
Job classification	-	-	-	-	-	4	-
Organization supports training and development	-	-	-	-	-	5	-

<sup>1</sup>Separate logistic regression analyses were done to identify the best predictors of job satisfaction for each of the organizations and for the System as a whole. <sup>2</sup>The rank reflects the order that variables were added to the logistic regression models. For example, the rank "1" refers to the first variable that was added to the model (i.e. the variable which best improved the fit of the model). <sup>3</sup>In order to account for the organizational setting, site was forced into the final logistic regression analysis for the SJHS. <sup>4</sup>Composite score from 2 (5-point) questions. A score of 8 to 10 indicates good communication. <sup>5</sup>Composite score from 9 (5-point) questions. A score of 36 to 45 indicates good decision latitude. <sup>6</sup>Composite score from 4 (5-point) questions. A score of 16 to 20 indicates good role clarity. <sup>7</sup>Composite score from 7 (5-point) questions. A score of 28 to 35 indicates good teamwork. <sup>8</sup>Composite score from 4 (5-point) questions. A score of 16 to 20 indicates good organization/staff relations. <sup>9</sup>Decision authority is a subscale of decision latitude. It was found to be a better predictor of job satisfaction for this organization than decision latitude. It is a composite score from 3 (5-point) questions. A score of 12 to 15 indicates good decision authority. <sup>10</sup>Composite score from 4 (5 point) questions. A score of 16 to 20 indicates satisfaction with patient/resident care. <sup>11</sup>Composite score from 3 (5 point) questions. A score of 12 to 15 indicates good supervisor social support.

(OR 3.42, 95% CI 1.82 to 6.43), 2) satisfied that the organization keeps staff informed (OR 2.62, 95% CI 1.48 to 4.65), 3) not being asked frequently to do an excessive amount of work (OR 2.41, 95% CI 1.36 to 4.27), 4) good decision latitude (OR 5.65, 95% CI 2.09 to 15.25), 5) being satisfied with pay level (OR 2.41, 95% CI 1.37 to 4.23), 6) being female (OR 2.99, 95% CI 1.29 to 6.90), and 7) good role clarity (OR 2.45, 95% CI 1.02 to 5.86). The final model achieved a rho-square of 0.25.

#### Site 6 (tertiary care hospital/community health centre)

The most important predictors of job satisfaction were: 1) belief the organization carries out its Mission statement (OR 3.99, 95% CI 2.52 to 6.31), 2) good communication (OR 3.00, 95% CI 1.85 to 4.88), 3) being given enough time to get the job done (OR 2.63, 95% CI 1.58 to 4.40), 4) being a member of the nursing staff (OR 2.73, 95% CI 1.75 to 4.26), 5) good organization support for training and development (OR 3.51, 95% CI 1.59 to 7.76), 6)

good decision latitude (OR 2.57, 95% CI 1.30 to 5.09) and 7) being satisfied with the organization's recognition of employee contributions (OR 2.05, 95% CI 1.07 to 3.91). The final model achieved a rho-square of 0.25.

#### All sites combined (SJHS)

The most important predictors of job satisfaction after adjusting for site were: 1) belief the organization carries out its Mission statement (OR 2.79, 95% CI 2.07 to 3.77), 2) good communication (OR 1.87, 95% CI 1.33 to 2.62), 3) less frequently being asked to do an excessive amount of work (OR 1.80, 95% CI 1.33 to 2.43), 4) good decision latitude (OR 3.28, 95% CI 2.09 to 5.17), 5) being satisfied with pay level (OR 1.61, 95% CI 1.21 to 2.15), 6) being satisfied with the organization's recognition of employee contributions (OR 1.57, 95% CI 1.07 to 2.29), 7) being female (OR 2.83, 95% CI 1.81 to 4.42), 8) good role clarity (OR 1.73, 95% CI 1.17 to 2.56), 9) being satisfied that the organization keeps employees informed (OR 1.35, 95%

CI 1.00 to 1.85), 10) good teamwork (OR 1.45, 95% CI 1.01 to 2.09), 11) being given enough time to get the job done (OR 1.57, 95% CI 1.10 to 2.23), and 12) good organization/staff relations (OR 2.02, 95% CI 1.13 to 3.62). The final model achieved a rho-square of 0.26.

## Discussion

The results of this survey were intended to assist decision-makers in identifying key workplace issues, as perceived by employees, in order to develop strategies to address and improve the quality of working conditions for staff within each of the individual health care organizations and the SJHS as a whole. This research represents the first step of an ongoing process to ensure better QWL for employees. In addition to the findings presented here, information from the survey's open-ended written comments have also been summarized for each of the six organizations (L Lohfeld, K Brazil, P Krueger, G Edward, D Lewis, E Tjam, E., personal communication, 2001) and the SJHS as a whole (St. Joseph's Health System Quality of Work Life Technical Reports 2000). This open-ended information provides additional and complementary information to that which is provided in this report. Together, these findings are currently being used by decision-makers at each of the organizations, and the SJHS, in an effort to improve employee QWL.

It should be noted that at the time of this survey, all of the hospitals included in this study (as well all other hospitals within the Province of Ontario) were operating in an environment of restructuring and change. This was a time of anxiety for many health care professionals, hospital staff and the general public. In 1996, the Ontario government created a Health Services Restructuring Commission (HSRC) with a four year mandate to restructure Ontario's hospitals and health services system. The HSRC was given authority under the Public Hospitals Act and The Ministry of Health Act to direct public hospitals to change their roles, transfer services and programs, amalgamate or close. The HSRC completed its mandate, announced its decisions and was terminated in March 2000. The timing for this study was after the decisions of the HSRC were announced. All of the organizations included in this study were impacted to varying degrees either directly or indirectly the HSRC decisions. The most notable impacts occurred at Site 1 and Site 2. Site 1 (a community hospital) was ordered closed effective March 2001 with programs and services to be transferred to the other local community hospital while site 2 (a community hospital/long-term care facility) was ordered to transfer its acute care services to the other local hospital in its community thereby becoming a long-term care facility. During the time of the survey, a new building (adjacent to the current facility) for the new long-term care facility was under construction and was scheduled to open in 2002. These contextual is-

ssues could have influenced employee responses and therefore the predictors of job satisfaction for all of these organizations, particularly for site 1 and site 2.

There are several positive attributes of this study. First, to our knowledge, it is the largest QWL investigation of health care workers in Canada with 1,819 completed interviews. Second, it is also unique in that we collected information from staff at six distinct and functionally diverse health care organizations. Third, because we could not find an "off-the-shelf" QWL instrument that suited our needs and collected all the information desired by key stakeholders, we developed (through a combination of modifying existing instruments and creating our own questions and scales) our own questionnaire. Finally, although the response rates were not as high as we would have hoped, the findings: appear to be consistent with what we expected *a priori* (the study's investigators had offices within 5 of the 6 organizations thus having inside knowledge about these organizations); appear consistent with the published literature; and were judged credible by management and staff at each of the sites. The statistical estimating procedure to assess how accurately respondents represent staff at each of the organizations also suggest that our findings were fairly representative of staff within these organizations, particularly the larger organizations.

## Conclusions

The results of this research show that job satisfaction is a multidimensional construct and is a product of the global evaluation of one's work place and context. This report provides valuable information about how employees in specific health care settings view their work environment. A number of organization specific predictors of job satisfaction were identified as a result of this study. The implications of these findings are currently being deliberated as they relate to improving QWL within each of the six health care organizations that make up the SJHS. These findings, may also be of relevance and value to employees, researchers, evaluators, human resource planners and administrators of similar health care organizations.

The results of this survey can also be used as baseline measures against which the findings of future job satisfaction surveys can be compared. Such comparisons place this type of research within a continuous quality improvement framework.

## Competing interests

None declared.



## Additional material

### Additional File

Statistically Significant1 Organization Specific (Univariate) Predictors of Job Satisfaction.

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## References

1. Knox S, Irving JA: **An interactive quality of work life model applied to organizational transition.** *JONA* 1997, **27**(1):39-47
2. Curry J, Wakefield D, Price J, Mueller C, McCloskey J: **Determinants of turnover among nursing department employees.** *Res Nurs Health* 1985, **8**:397-411
3. Irvine D, Evans M: **Job satisfaction and turnover among nurses: integrating research findings across studies.** *Nurs Res* 1995, **44**(4):246-253
4. Yoder L: **Staff nurses' career development relationships and self-reports of professionalism, job satisfaction, and intent to stay.** *Nurs Res* 1995, **44**(5):290-297
5. Alpander C: **Relationship between commitment to hospital goals and job satisfaction: a case study of a nursing department.** *Health Care Manage Rev* 1990, **15**:51-62
6. Beall C, Baumhover LA, Gillum J, Wells A: **Job satisfaction of public health nurses: is there a predictable decline?** *J Health Hum Serv Adm* 1994, **17**(2):243-260
7. Joseph J, Deshpande SP: **The impact of ethical climate on job satisfaction of nurses.** *Health Care Manage Rev* 1997, **22**(1):76-81
8. MacRobert M, Schmele J, Henson R: **An analysis of job morale factors of community health nurses who report a low turnover rate. The research.** *J Nurs Adm* 1993, **23**(6):22-27
9. van de Looij F, Benders J: **Not just money: quality of working life as employment strategy.** *Health Manpow Manage* 1995, **21**(3):27-33
10. Goodell T, Van Ess Coeling H: **Outcomes of nurses' job satisfaction.** *J Nurs Adm* 1994, **24**(11):36-41
11. Sinkkonen S: **Quality of work life and work environment among health care personnel. In Research on Work Organization and Well-being among Health Care Personnel: Proceedings from the Workshop for Nordic Researchers in Helsinki.** 1994, 26-29 Copenhagen: Nordic Council of Ministers.
12. Blegen M: **Nurses' job satisfaction: a meta-analysis of related variables.** *Nurs Res* 1993, **42**:36-41
13. Woodward C, Shannon H, Cunningham C, McIntosh J, Lendrum B, Roenbloom D, Brown J: **The impact of re-engineering and other cost reduction strategies on the staff of a large teaching hospital: a longitudinal study.** *Med Care* 1999, **37**(6):556-569
14. Taylor J, Bowers D: **Survey of Organization: A Machine-Scored Standardized Questionnaire Instrument (Group Process Scale).** Ann Arbor: University of Michigan, Institute for Social Research, 1972
15. Brosnan J, Johnson M: **Stressed but satisfied: organizational change in ambulatory care.** *J Nurs Adm* 1980, **10**(11):43-46
16. Karasek R, Theorell T: **Healthy Work: Stress, Productivity, and the Reconstruction of Working Life.** New York: Basic Books, 1990
17. Karasek R, Brisson C, Kawakami N, Houtman I, Bongers P, Amick B: **The job content questionnaire (jcq): an instrument for internationally comparative assessments of psychosocial job characteristics.** *J Occup Health Psychol* 1998, **3**(4):322-355
18. Wrigley N: **Categorical data analysis for geographers and environmental scientists.** New York: Longman, 1985, 49-62
19. Kalton G: **Introduction to Survey Sampling.** Newbury Park: SAGE, 1983, 14-16

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